The Role of Environmental Knowledge in Moderating the Consumer Behavioral Processes Toward the Green Products (Survey on the Green Product-mind in Indonesian)

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ABSTRACT
This study aims to test the role environmental knowledge in moderating the effects of green brand positioning, functional benefits, emotional benefits, the green products necessity on the positive attitude toward green product. Samples were taken from 400 respondents, who were interested in green products. Convenience sampling method was chosen to obtain the data, which was then tested using hierarchical multiple regression analysis to explain the main effects and interaction effects of the variables observed. The test results explained that the environmental knowledge only moderate the relationship between the green brand positioning and the attitude toward green products, but this pattern is negative. This means that the higher the environmental knowledge, the weaker the relationship between the green brand positioning and the positive attitudes toward green products. Furthermore, this study also discusses other relationships that are not significant, followed by theoretical contributions, methodological, practical, and opportunities for future research.

Keywords: green product, attitude, knowledge of the environmental, the functional and emotional benefits, green brand positioning.

1. Introduction

The awareness of people in Indonesia as a developing country that was still categorized demographically have this level of education, income, employment status that was relatively low, estimated to have an impact on the lack of interest in the consumption of green products. This is supported by studies conducted by Laroche et al., (2001) who explain the moderating demographic variables on the behavioral process of green products (Stipecvic et al., 2013).

In this study one of the demographic variables were observed, which plays an important role in moderating the behavioral process that is knowledge of the environment. Past studies have not become the conclusive opinion on the problem, observation variables, and statistical tools used to design models of research (Shavie & Rennie, 2012; Follows & jobber, 2000; Fotopoulos & Krystalis, 2002; Hartman et al., 2005). It is used as consideration for the design of alternative models that can explain the phenomenon of green products in Indonesia.
There are 5 variables observed in this study namely the green brand positioning, the functional benefits, the emotional benefits, the necessity green products, the environmental knowledge, and the positive attitude toward the green products (Kalafatis et al., 1999; Baker & Ozaki, 2008; Ali et al., 2011; Cheah & Pau, 2011). Thus the model designed in this study explains the relationship between these variables.

2. Theoretical background and Hypothesis

2.1. The Positive Attitude toward Green Product

Attitude is defined as an individual’s subjective evaluation of a brand or product (Bodur et al., 2000). Therefore it is the result of subjective evaluation judgment manifested in the form of feeling love / not love (like very much / dislike very much), happy / not happy (favorable / unfavorable), positive / negative (positive / negative) to the brand or product (Sheppard et al., 1988; Homer & Kahle, 1988; Homer, 1990; Wise et al., 2008). In the process of consumer behavior, attitude toward the product is a consequence arising from internal and external influences, so in practice, marketers create stimuli to internal and external influences on the behavior of individuals who expressed attitudes toward the product and purchase intention for the product (Miniard et al., 1992; Dabholkar, 1994, Chatterjee, 2008).

In the context of a green product, attitude is defined as a form of likes and dislikes, comfort or discomfort, and pleasure or displeasure as a form of positive or negative evaluations of the individual product-oriented environmental friendliness (Mc.Carty&Shrum, 1994; Ginsberg & Bloom, 2004). This attitude appears as a form of consumer concerns about the negative effects of a product or brand to be consumed. Perceived concern is related to personal interests or may be related to the interests of society as a whole (Bodur et al., 2000).

In this study, the concepts proposed were the positive attitude toward green product that was influenced by the green brand positioning (Hartmann et al., 2005; Baker & Ozaki, 2008), the functional benefits (Hartmann, 2005; Cheah & Pau, 2011), the emotional benefits (Hartmann, 2005; Cheah & Pau, 2011), and the perceptions of the purpose of the product (Chan & Lau, 2000; Chan, 2001; Cheah & Pau, 2011). In addition, these relations were moderated by environmental knowledge (Chan & Lau, 2000; Chan, 2001).

2.2. The Green Brand Positioning

Positioning of green products was interpreted as an effort made by marketers that were being made to put the brand or product attributes in its position based on its ability to reduce negative impacts on the environment and human health (Hartmann et al., 2005; Booi-Chen, 2011). This explains, that for the community, the product has the same meaning as green environmentally friendly products. This perception was built by marketers by actively communicating about the values of an attribute of the product on the target customer.

Product attributes are used to position green products, among other attributes contained in the core benefits, as well as generic attributes that are packed and form the core benefits. So a product or brand can be said to be green, if the product or the brand has a core benefit that is perceived as a healthy...
product, and in addition, the product has additional attributes, such as packaging and wrapping, which is positioned as environmentally friendly attributes. Overall, this attribute is used by marketers to define the products that are marketed, by embedding the values that lead to a perception that the product is environmentally-friendly products or green products (Joshi & Mishra, 2011; Lilywhite et al., 2011).

In the process of behavior, green brand positioning is conceptualized as an effective stimulus for marketers to influence positive attitudes toward green products. Literature review indicated the positive relationship between green brand positioning and the positive attitude toward the product (D’Souza & Taghian, 2005; Hartmann et al., 2005; Baker & Ozaki, 2008). Based on these concepts, the following hypothesis is formulated.

H1: The higher the brand that is positioned as a green product, the higher the positive attitude toward the product.

2.3. The Functional benefits

Functional benefits are defined as the usefulness of a brand or product in terms of functionality or usefulness core or main benefit (Kotler& Keller, 2006; Dehghanan&Bakhshandeh, 2014). This is an important consideration because these considerations have an impact on the marketing strategies related to the pricing of a product. Products that focus on functional benefits will have consequences on the pricing cheaper than products that focus on the emotional attributes. This can happen because the product that focuses on the emotional benefits requires extra marketing efforts that have implications for the extra costs necessary marketing, to meet the emotional satisfaction of its market.

In the context of green products, functional benefits as the main reasons for prospective customers are used as a basis for forming their positive attitude toward a product. For consumers, green products promise a benefit, which is functionally believed can avoid negative consequences, which is due to the consumption of conventional products or non-green products. Related to this issue, the concept described is the higher the functional benefits of a green product the higher the positive attitude toward the product. This concept is supported by previous studies that explained the positive relationship between perceptions of functional benefits and positive attitudes toward green products (Hartmann et al. (2005). Accordingly, the following hypothesis is formulated to explain the relationship between these variables.

Hypothesis 2: The higher the perceived functional benefits of green products, the higher the positive attitude toward the product.

2.4. The Emotional Benefits

Emotional benefits are the next considerations made by consumers to buy green products (Kotler& Keller, 2006). The emotional benefits are associated
with the product attributes that are not rational that lead to increased prestige or self-esteem of the wearer. Thus the emotional benefit is defined as a benefit of a brand or a product-related attributes supporting functional attributes, including packaging, scent, color, or other attributes additions that can increase the feeling of prestige to the wearer.

In the context of green products, consideration of the emotional benefits of a product has the potential to influence the purchasing decisions for prospective customers (Hartmann, 2005; Cheah & Pau, 2011). This consideration may occur due to the possibility of a green product, for prospective customers, perceived as a health product, which has a price that is relatively more expensive than non-green products. Thus, the prestige value attached to the product or a value that gives an emotional feeling can provide a sense of satisfaction for the consuming public.

Associated with behavioral processes that occur, the phenomenon to be explained is the higher the emotional benefits of green products, the higher the positive attitude of consumers toward the product candidate. This concept is supported by previous research that explained the positive relationship between emotional benefits and positive attitudes toward green products (Hartmann et al., 2005). Thus, the following hypothesis is formulated to explain the relationship conceptualized.

H3: The higher the emotional benefits of a green product, the higher the positive attitude toward the product.

2.5. The Green Products Necessity

The necessity of green product, which in previous studies referred to the perceived product necessity is defined as the perception of potential customers, the level of importance or purpose of a product to meet the needs of consumers (Cheah & Pau, 2011; Subhani et al., 2012). In this case there is pressure on the internal stimulus of individuals to be solved immediately. Furthermore, increasing pressure has implications for individual efforts to seek a solution by way of seeking solutions through external stimuli conducted by marketers.

In the context of green products, product necessity becomes an important consideration by the community as potential customers to form a positive attitude toward the product. This can occur due to the consumption of green products, people will look at the level of relevance of the product to the health needs that must be met, so the higher the level of necessity, the higher the positive attitude toward the product.

In this study, the phenomenon to be explained is the higher level of necessity of green products, the higher the positive attitude toward the product. This concept is supported by previous studies that explained the positive relationship between the product necessity and a positive attitude toward the product (Cheah & Pau, 2011). Thus, the following hypothesis is formulated to explain the phenomenon of the relationships between variables.

H4: The higher the necessity of green products, the higher a positive attitude toward the product.

2.6. The Environmental Knowledge

Knowledge of the environment is the level of public understanding of the potential consumers of green products on the issues of the importance of health and
welfare in the long term, including issues related to the negative effects of the use of substances harmful chemicals, pollutants, greenhouse effect, the issue of recycling of packaging products, and other issues that can potentially affect a positive attitude toward green products (Chan & Lau, 2000; Ali et al., 2011). This can happen because people make choices in the particular products, green products, can not be separated from a sense of concern for environmental problems posed. The level of awareness formed is usually associated with the level of ability to identify and define the ecological symbols, giving marketers of the products their markets.

In the context of consumer behavior, the higher the ability of communities to define symbols, means also higher ecological knowledge. This is expected to have an impact on the higher positive attitudes toward green products. This concept is supported by previous research that suggested a positive relationship between environmental knowledge and positive attitudes toward green products (Chan, 1999; Chan & Lau, 2000; Ali et al., 2011). Thus, the following hypothesis is used to explain the relationship between these variables.

H5: The higher the ecological knowledge, the higher the positive attitude toward green products.

In addition, previous studies also showed that in addition to the main effects, environmental knowledge also showed the effect of the interaction (Assael, 1998). This means that the knowledge of the environment is to act as a moderating variable of the consumer behavior toward green products. The phenomenon first describing moderation is the higher knowledge of the environment, the further it strengthens the influence of green brand positioning in a positive attitude toward the product. This means that in people who have high environmental knowledge, the effect of green brand positioning in a positive attitude is higher than in communities with a low environmental knowledge. Thus, the following hypothesis is formulated to explain the relationship between these variables.

H6: The higher the ecological knowledge, the stronger the effect of green brand positioning on the positive attitude toward the brand.

In addition, knowledge of the environment is also conceptualized to moderate the influence of the functional benefits of a positive attitude toward green products. This is supported by previous research that explained the positive relationship to occur (Assael, 1998). Thus this concept explains that in a society that has a high environmental knowledge, the effect of functional benefits is on the higher stance of the people who have low environmental knowledge. Here is a hypothesis formulated to explain the phenomenon of the concept.

H7: The higher the environmental knowledge, the stronger the influence of the functional benefits on the positive attitude toward green products.

In addition to functional benefits, environmental knowledge is also conceptualized to moderate the influence of the emotional benefits of a positive attitude toward green products. This is supported by previous studies that explained the positive relationship, which means that the people who have high environmental knowledge, the effect of functional benefits is at a higher stance than in societies that have a low environmental knowledge (Assael, 1998). Thus, the following hypothesis is formulated to explain the phenomenon of the concept.
H8: The higher knowledge of the environment, the further it strengthens the influence of the emotional benefits of a positive attitude toward green products.

The latter is also conceptualized that the knowledge of environment moderates the influence of the necessity of green products on positive attitude toward these products. In this study, the concept described is people who have a high ecological knowledge; the effect of the product necessity on attitudes is higher than in people who have low ecological knowledge. Thus, the following hypothesis is formulated to explain the phenomenon of the concept.

H9: The higher the knowledge of the environment, the further it strengthens the influence of the necessity of green products on positive attitude toward green products.

Figure 1 shows the relationship between the variables of the process of the formation of positive attitudes towards the green product as it has been conceptualized in the hypothesis.

![Figure 1. The Model of the formation of Positive Attitude toward Green Product.](image)

3. The Research Methods

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ISSN: 2304-1013 (Online); 2304-1269 (CDROM)
3.1. Sampling Techniques

Samples that were taken were as many as 400 people who were shopping in department stores, with convenience techniques (Sekaran & Bougie, 2010). It is based on the consideration of aspects of the quality of information that is expected, because in this study, the time constraint is one that should really be expected to have no impact on the delay in reporting the results of research and quality of information obtained. In addition, the number of samples is expected to meet specified minimum requirements of the statistical tools used in this study, namely the hierarchical multiple regression analysis (Hair et al., 2010). Furthermore, respondents were given questionnaires, which were then asked to return immediately, if all the items have been filled.

3.2. The Definition of Variables

Positioning a product is defined as the level of the individual’s perception of a product's ability to reduce the negative impact on the environment (Hartmann et al., 2005). This variable is measured by the ability of the individual’s perception of green products in terms of safety, environmental friendliness, ease of disassembly, caring environment, free of harmful substances.

Functional benefit is defined as the individual’s perception of the core benefits of green products (Hartmann et al., 2005). This variable is measured by the individual’s perception of the main benefits of green products associated with the content of the health, safety, taste, free of hazardous substances, pollutant-free, good quality, and environmentally friendly.

Emotional benefit is defined as the individual’s perception of the benefits of green products which increases the prestige and dignity of the wearer (Hartmann, et al., 2005). This variable is measured by the individual's perception of the benefits of green products that can enhance the prestige, self-image, pride, self-esteem, recognition of the environment, and self-actualization.

Consciousness of green products is defined as the public perception of the importance of green product consumption that must be met (Cheah & Pau, 2011). This variable is measured by consumers' perception of the needs, purposes, interests, necessity, and urgency.

Environmental knowledge is defined as public awareness of green issues (Laroche et al., 2001). This variable is defined as the level of public understanding of the issues of the logo and colors, cause pollution, the greenhouse effect, recycling knowledge, and issue of other healthy foods.

Attitude toward green products is defined as the level of joy or positive evaluation of the community toward environmentally friendly products (Amyx et al., 1994). This variable is measured by the level of excitement, joy, positive evaluation, feeling good, and happiness.

Furthermore, the observed variables were measured using Likert scale with 5 points, namely: 1: strongly disagree to 5: strongly agree. Measurements have been selected, based on the impartial opinion of the alternative answers to the questionnaire that has been designed through pre test questionnaire.

4. Results
Test results indicate that there is a significant and positive relationship between the position of the green, and a positive attitude toward green brands both at the step 1 ($\beta = 0.1842$, SE = 0.0403, sig < 0.05), as well as the step 2 ($\beta = 0.1005$, SE = 0.1744, sig < 0.01) (see Table I). The results of this test indicate the consistency of the concept of the relationship between the perceived position of the green and a positive attitude toward the brand when the green well before and after controlled by Ecological knowledge as a moderating behavioral processes.

Furthermore, the test result does not indicate a significant relationship between functional benefits and a positive attitude towards green brands neither in step 1 ($\beta = -0.0309$, SE = 0.0444, sig > 0.05), nor in step 2 ($\beta = -0.0283$, SE = 0.2048, sig > 0.05). The result of this test indicates the perceived functional benefit is not the variable that is considered important by consumers to influence positive attitudes toward the green brands. This can happen due to the possibility of the green brand, not just to meet the functional needs of the individual alone, but it is hoped over the expectations that it is more idealistic emotional. Inconsistency between functional benefits and a positive attitude toward green brands, both before and after the controlled environment of knowledge as a moderating variable on the behavior of green products indicates that the hypothesis is not supported, as formulated by previous researchers (Hartmann et al., 2005).

Table 1. The Hierarchical Regression Analysis Results

<table>
<thead>
<tr>
<th>Variable</th>
<th>Step 1</th>
<th>Step 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>GARCH</td>
<td>-3,2830</td>
<td>-3,3687</td>
</tr>
<tr>
<td></td>
<td>(1,7533)*</td>
<td>(1,8919)*</td>
</tr>
<tr>
<td>Constant</td>
<td>2,7459</td>
<td>-0,9378</td>
</tr>
<tr>
<td></td>
<td>(1,0518)**</td>
<td>(1,6002)</td>
</tr>
<tr>
<td>Green Positioning (GP)</td>
<td>0,1842</td>
<td>1,005</td>
</tr>
<tr>
<td></td>
<td>(0,0403)**</td>
<td></td>
</tr>
<tr>
<td>Functional Benefits (FB)</td>
<td>-0,0309</td>
<td>-0,0283</td>
</tr>
<tr>
<td></td>
<td>(0,0444)</td>
<td>(0,2048)</td>
</tr>
<tr>
<td>Emotional Benefits (EB)</td>
<td>0,1680</td>
<td>0,2081</td>
</tr>
<tr>
<td></td>
<td>(0,0313)**</td>
<td>(0,1573)</td>
</tr>
<tr>
<td>Product Necessity (PN)</td>
<td>0,3989</td>
<td>0,1543</td>
</tr>
<tr>
<td></td>
<td>(0,0369)**</td>
<td>(0,1856)</td>
</tr>
<tr>
<td>Environmental Knowledge (EK)</td>
<td>0,1215</td>
<td>0,8230</td>
</tr>
<tr>
<td></td>
<td>(0,0316)**</td>
<td>(0,2088)**</td>
</tr>
<tr>
<td>GP*EK</td>
<td>-</td>
<td>-0,1510</td>
</tr>
</tbody>
</table>
Meanwhile, the test results showing a significant and positive relationship between emotional benefits and positive attitudes toward green brands in the regression model level 1 is supported (β = 0.1680, SE = 0.0313, sig <0.01), but not on level regression model 2 (β = 0.2081, SE = 0.1573, sig> 0.05). The results of this test indicate that when knowledge about the environment does not moderate behavioral process, the higher the emotional benefits, the higher the positive attitude toward green brands. However, the results are different when the behavioral process is controlled by environmental knowledge, which suggests that the emotional benefit is not a variable into the consideration of the individual in shaping positive attitudes toward green brands. These findings do not lend support to the concept that was formulated by previous researchers that explained a significant and positive relationship between emotional benefits and positive attitudes toward green products (Hartmann, 2005; Cheah& Pau, 2011). It is recommended for future research to test the concept in a more specific object, so hopefully, in the future it will be able to produce a model that is able to explain the phenomenon well.

The test results further indicate a significant and positive relationship between perceived necessity and a positive attitude toward the product brand level green on the regression model 1 (β = 0.3989, SE = 0.0369, sig <0.01), but this relationship becomes insignificant level regression model 2 (β = 0.1543, SE = 0.1856, sig> 0.05). Such conditions indicate that the positive relationship occurs in the process of attitude formation, when not controlled by the level of knowledge of the individual, but when the knowledge of the environment controls behavior; the relationship becomes insignificant. This means that, when there is the knowledge of environmental control of individual behavior, the necessity of a product is not a variable that is considered to form a positive attitude toward green brands.

Next, the test results indicate that there is a significant and positive relationship between environmental knowledge and positive attitudes toward green
brands both in the regression model of step 1 ($\beta = 0.1215$, $SE = 0.0316$, sig <0.01), and level regression model of step 2 ($\beta = 0.8230$, $SE = 0.2088$, sig <0.01). The results of this test indicate the consistency of the concept of the relationship between environmental knowledge and a positive attitude toward the brand when the green is well controlled before and after the consideration of the individual is controlled jointly with other decision variables. Thus, the findings of this study support the concept proposed in previous research (Chan, 1999; Chan & Lau, 2000; Ali et al., 2011).

Results of testing of hypotheses that explain the higher environmental knowledge, the further it strengthens the effect of positioning the brand in a positive attitude toward green brands, is significant, but the relationship is negative ($\beta = -0.1510$, $SE = 0.0310$, sig <0.01). The result of this test explains that the higher knowledge of the environment, the further it weakens the influence of green brand positioning in a positive attitude toward the brand. This phenomenon can occur because of the types of products observed are general, so that each has diversity in its brand positioning. It is therefore recommended in future research to examine this concept on specific product positioning green.

Results of testing of hypotheses that explain the higher ecological knowledge, the further it strengthens the influence of functional benefits on a positive attitude toward green brands, are not significant ($\beta = 0.0102$, $SE = 0.0375$, sig> 0.05). Likewise, insignificant results are also explained by the hypothesis which suggests that the environmental knowledge moderates the relationship between emotional benefits and positive attitudes toward green products ($\beta = -0.0085$, $SE = 0.0265$, sig> 0.05). The same results are shown by the testing of the last hypothesis that describes the knowledge environment moderates the relationship between the product of necessity and positive attitude toward green brand ($\beta = 0.0400$, $SE = 0.0333$, sig> 0.05). These findings do not lend support to the hypothesis as has been previously conceptualized (Assael, 1998). This conditions require further research in different contexts, so in this way it is expected to explain the concept of the hypothesis well.

5. Implications

It can be concluded here that the green product positioning is the first stimulus that can positively affect individual attitudes toward green brands. This indicates a high level of public awareness of the importance of consumption of products that are free of pollution. Thus marketers need a way to package its promotional program to highlight the company's concern toward environmental harmony.

It is also found that the emotional benefit is the further consideration that can influence the positive attitudes toward green products. This indicates the need for marketers to package green products into the marketing program that offers emotional benefits for the consumer.

The product necessity is the next consideration in determining a positive attitude toward green products. This indicates that the individual is willing to consume green products due to forced conditions. Therefore, marketers need to package this situation in the form of marketing programs that highlight the importance of green product consumption.

Knowledge of the environment is a variable found to affect a positive attitude toward green brands. This requires an appropriate decision of marketers to educate the public about the need to preserve the environment and long-term prosperity.
As external variables, ecological knowledge is a variable that was found to moderate the process of buying behavior of green products, especially in weakening the relationship between green positioning and a positive attitude toward green products. This phenomenon can occur because green products, which is the focus of this research is of a general nature green product, so this affects diverse connotations in perceiving green product positioning. This diversity, in turn, when interacting with ecological knowledge, has an impact on the pattern of negative relationships with positive attitude toward green brands.

Further researchers, which are interested in doing research in the context of a green product, are advised to look at the characteristics of green products that are the focus of the research. This is necessary in order not to arise a dual perception, which is due to the vagueness of products that are the focus of study. In this way, it is expected that in the future, the concepts that are hypothesized may be well explained.

References


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